CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

VN 200 4100.1
CHG 1

04/15/04

SUBJ: **Aviation System Standards Flight Inspection Aircraft Configuration Control (FIACC) and Software Change Process**

1. PURPOSE. This change transmits revisions to Order VN 200 4100.1, Aviation System Standards Flight Inspection Aircraft Configuration Control (FIACC) and Software Change Process, dated February 2, 2004.

2. DISTRIBUTION. This change is distributed to the National Aeronautics and Space Administration and to the branch level in the Program Office of Aviation System Standards, AVN.

3. EXPLANATION OF CHANGES: Appendix 2, Paragraph 3n adds requirements to:

a. Notify NASA NAVAID Engineers of AFIS software changes.

b. Coordinate MSBLS modifications with NASA NAVAID Engineers.

4. DISPOSAL OF TRANSMITTAL. After filing the revised pages, the change transmittal should be retained.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
Appendix 2, Page 1	02/02/04	Appendix 2, Page 1	02/02/04
Appendix 2, Page 2	02/02/04	Appendix 2, Page 2	04/15/04
Appendix 2, Page 3	02/02/04	Appendix 2, Page 3	04/15/04
Appendix 2, Page 4	02/02/04	Appendix 2, Page 4	04/15/04
		Appendix 2, Page 5 (and 6)	04/15/04

/s/

David H. Boulter
Manager, Flight Inspection Operations Division

Distribution: A-W(VN); Special NASA Addressees **Initiated By: AVN-210**

FAA Form 1320-1

ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

VN 200 4100.1

02/02/04

SUBJ: Aviation System Standards Flight Inspection Aircraft Configuration Control (FIACC) and Software Change Process

1. PURPOSE. This order establishes the process for identifying and approving all modifications and system enhancements to AVN flight inspection program aircraft and related systems and equipment.

2. DISTRIBUTION. This order is distributed to the branch level in the Program Office of Aviation System Standards, AVN.

3. APPENDIXES. Appendix 1 outlines the process for submitting, reviewing, and approving enhancements to the aircraft and aircraft equipment. Appendix 2 outlines the process for submitting, reviewing, and approving enhancements to the AFIS software.

/s/

Edward W. Lucke, Jr.
Manager, Flight Inspection
Operations Division

APPENDIX 1
PROCESS FOR SUBMISSION, REVIEW, AND APPROVAL OF PROPOSED MODIFICATIONS AND/ OR ENHANCEMENTS TO AVN FLIGHT INSPECTION AIRCRAFT

1. GENERAL. The configuration of the Flight Inspection aircraft fleet requires a process for processing and documenting all changes/ enhancements.

2. PURPOSE. This appendix establishes the operating processes and responsibilities for AVN's evaluation of all proposals. This process covers changes funded through the formal F&E process, as well as changes funded through Operations funds.

3. BACKGROUND. In accordance with FAR 135, the Director of Maintenance (DOM) is responsible for all modifications, changes, or enhancements to aircraft and aircraft systems and equipment. Any change to an aircraft, aircraft systems, or piece of aircraft equipment that affects the airworthiness of the aircraft must be approved and accomplished through processes managed by the DOM.

4. AVN FLIGHT INSPECTION FLEET MODIFICATION AND/ OR ENHANCEMENT PROCESS:

a. Any individual or organization may submit a recommendation for any modification or enhancement.

b. All proposed modifications and/ or enhancement must be forwarded to the Director of Operations (DO) through the Technical Support Branch, AVN-210.

c. All proposals will be numbered and historical information will be maintained in AVN-210. (There is a separate database for Software – Appendix 2)

d. An internal Flight Inspection Operations Division, AVN-200, review process will evaluate all proposed modifications and/ or enhancements and determine if the proposal will be submitted to the DOM for a feasibility review on a Feasibility Review Request Form (Figure 1).

e. If no feasibility review is required, the DO will forward the requirement to the DOM on a Project Assignment Form (Figure 2).

f. After receipt of either the Feasibility Request (Figure 1) or the Project Assignment Form (Figure 2), the DOM will review to determine the appropriate action (either feasibility analysis to be conducted or work assignment). (**If a project assignment, proceed to Step j).**

g. After receipt of the Feasibility and Cost Estimate Form and assignment by the DOM to the appropriate AVN-300 functional area, a project work group will be established to determine feasibility of the project. The workgroup will include an AVN-200 Operations representative

h. After the project work group completes their assessment on the feasibility and cost of projects, the DOM will provide the information to the DO for determination if the project will be accomplished.

i. With all information available and the DOM's information, the DO will determine if the project will proceed. If the determination is to proceed and funding is available, the DO will forward a Project Assignment Form (Figure 2) to the DOM. If funding must be requested through the F&E process, the requirement will be documented and submitted through the F&E process, and the Project Assignment Form (Figure 2) will be forwarded to the DOM, indicating that the funds have been requested and the anticipated date of receipt of those funds.

j. After receipt of the Project Assignment Form (Figure 2), the DOM will determine how the work will be accomplished and assign the project.

NOTE: If the work is for a future F&E project, the DOM will have the information available for long-term planning.

k. At a minimum, the DOM will provide project review information on a quarterly basis to the DO. The review information will include:

(1) Percent complete

(2) Funding status (depending on fund holder)

(3) Anticipated completion date

(4) Part A or sample form shown in Figure 3

l. In addition to the project review information, the two Aircraft Program organizations (Operations and Maintenance/ Engineering) will meet to review the status of all ongoing and planned projects. Appropriate representatives from AVN-200 and AVN-300 will attend the meeting.

m. If AVN-200 funds are being used, identification of the fund transfer will be documented on the form shown in Figure 4.

n. After successful completion of the project, the DO will review and accept the completed project as appropriate.

5. PROJECT PRIORITY DESCRIPTIONS (Feasibility and Requirements)

a. At least quarterly, the DO, DOM, and appropriate Maintenance/ Engineering and Operations personnel will meet to discuss the priority of planned and ongoing projects.

b. Priority 1 – Urgent

Begin feasibility study or implementation work immediately. Place this project before any other work in the organization – except other Priority 1 projects. (Deadline date will be provided by DO). If other Priority 1 work is being accomplished, the DO will coordinate with the DOM to establish a Priority 1 schedule.

c. Priority 2 – Priority

Begin this maintenance or engineering work after Urgent work, but before Routine work. (Deadline date will be provided by the DO.)

d. Priority 3 – Routine

Complete this work as it comes up in the standard work schedule of the maintenance or engineering organizations. (No deadline date will be provided.)

Figure 1

REQUEST FOR
ASSESSMENT OF FEASIBILITY & COST ESTIMATE

From: Director of Operations										
To: Director of Maintenance										
Task No	**Title**									
Priority	**Aircraft Effectivity**									**Need By Date**
		CL604		**CL601**		**L60**		**BAe125**	**B300**	
Description:										

Requirement:

1. Operational Considerations -

Director of Operations		**AVN-210**	**AVN-230**
Signature	Date	Initials	Initials

AVN-200 Feasibility Worksheet (12/03)

Figure 2

PROJECT ASSIGNMENT SHEET

From: Director of Operations										
To: Director of Maintenance										
Task No	**Title**									
Priority	**Aircraft Effectivity**									**Need By Date**
	CL604		CL601		L60		BAe125		B300	
Description:										

Requirement:

Director of Operations		**AVN-210**	**AVN-230**
Signature	Date	Initials	Initials

AVN-200 Tasking Worksheet 1 (12/03)

Figure 3

Part A or Other Document Such As This Sample

(Status as of _____)

Date Initiated: _____

Project #: _____

Revision: _____

Estimated Completion: _____

Percent Complete: _____

Funds Provided: _____

Last Invoice Submitted: _____

	Est	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Variance
Engineering Hours						
Maintenance Hours						
Materials						
Funding						

Comments:

Figure 4

Project Requirement & Authorization

Task No.	
Date:	
Due Date:	
Priority:	
Task Description:	

Estimated Cost:	**Anticipated Funding:**

Authorized By
AVN-200 _____

Action: Authorize AVN-300 to use the following funds for above Tasking in the amount NTE those listed.

Funding Cite:

NTE Amount:

Funds Certifier: **Date:**

_____ _____

APPENDIX 2
AFIS SOFTWARE CONFIGURATION CONTROL

1. **PURPOSE:** This appendix establishes processes and responsibilities for AVN's evaluation of all AFIS Software. The Flight Inspection Operations Division, AVN-200, has established a Software Configuration Control Team (SCCT), which will evaluate AFIS Software changes. The following establishes the processing of Software Change Requests (SCRs).

2. **BACKGROUND**. In accordance with FAR 135, the Director of Maintenance (DOM) is responsible for all modifications, changes, or enhancements to aircraft and aircraft systems and equipment. Any change to an aircraft, aircraft systems, or piece of aircraft equipment that effects the airworthiness of the aircraft must be approved and accomplished through processes managed by the DOM.

3. **AFIS SOFTWARE CONFIGURATION CONTROL PROCESS.**

a. Team members serving as Technical Project Representatives are from the Technical Support Branch, AVN-210; Policy and Standards Branch, AVN-230; Training Branch, AVN-220; and the Flight Inspection Maintenance Division, AVN-300. The Resource Management Staff, AVN-20, provides acquisition support. All assigned team members speak for their organizations. The Flight Inspection Maintenance Division, AVN-300, will be notified of actions and can identify a technical project representative. The Technical Support Branch, AVN-210, will serve as chair of the team.

b. Any individual or organization may submit a recommendation on a Software Change Request Sheet (Figure 5).

c. The SCRs are forwarded to AVN-210 through AVN-200.

d. All proposals will be numbered, and historical information will be maintained in AVN-210.

e. The Technical Support Branch, AVN-210, will conduct a preliminary technical review. The results of the review will be an agenda item for the next SCCT meeting.

f. The Technical Support Branch, AVN-210, will coordinate software changes with the Information Technology Staff, AVN-40, to determine the impact on other existing systems (e.g., AIRNAV).

g. All software requirement changes will be approved and prioritized by the DO. Notification of action (approval or disapproval) for the SCR is provided to the originator.

h. After approval of an SCR, the type of requirement will dictate the method of accomplishment:

(1) Emergency Software Changes: A requirement that cannot wait for the next software release (an urgent requirement affecting the flight inspection mission).

(2) Minor Software Upgrades: Small developmental efforts and software maintenance to coincide with the next software revision.

(3) Major Software Developments: New inspection modes or complex revisions.

i. After approval by the DO, a specification will be developed to describe the operation or desired outcome. The team will develop an Operational Test and Evaluation (OT&E) procedure to be used in the software acceptance process. The SCCT will provide technical assistance during the actual OT&E. The specification will be forwarded to AVN-20 for acquisition with the Software Change Tasking Sheet (Figure 6).

j. Upon receipt, AVN-20 will initiate the acquisition process and will serve as the Contracting Officer's Representative (COR). The Resource Management Staff, AVN-20, is the consignee for delivery of approved AFIS software documentation and/ or other products from the contractor. The Technical Support Branch, AVN-210, serves as the Contracting Officer's Technical Representative (COTR).

k. As a minimum, the contractor (or AVN-300 Franchise) will provide project review information on a quarterly basis to the DO. The review information will include:

(1) Percent complete

(2) Funding status (depending on fund holder)

(3) Anticipated completion date (Sample Form Figure 3)

l. If AVN-200 funds (Operations or F&E Funds) are being used, identification of the fund transfer will be documented on the form shown in Figure 4.

m. After successful completion of the project, the DO will review and accept or reject the completed project, as appropriate.

n. All NASA Microwave Scanning Beam Landing System (MSBLS) mode profiles (radials, orbits, and approaches) will be included in all software operational tests to ensure compatibility.

Upon the acceptance of the FAA MSBLS flight inspection program by NASA, no further AFIS software revisions will be installed in the FAA flight inspection aircraft without the following process being followed.

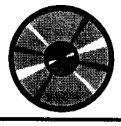
(1) Non-MSBLS Software Revisions. NASA NAVAID Engineers will be informed by e-mail of those software revisions installed in the FAA flight inspection aircraft that do not have an impact on the MSBLS flight inspection mode. In addition, the FAA will fly the new software against a MSBLS facility during their OT&E process to ensure the new revision did not inadvertently impact the MSBLS Mode. NASA NAVAID Engineers will be provided a high level explanation, in writing, either in the form of a service bulletin from the software developer or a written narrative from the Flight Inspection Operations Division, AVN-200, that will include the purpose and contents of the revision.

The exception to this process is if the FAA determines that the revision is so minor that it does not require an OT&E.

(2) MSBLS Software Revisions. MSBLS software revisions may be completed upon request from NASA NAVAIDS Engineers or the FAA. When requested by the FAA, it will be coordinated with NASA NAVAID Engineers in writing. The document shall include the purpose, rationale, and impact of the requested change. Once approved by NASA NAVAID Engineers, comments will be reviewed by the Software Configuration Control Team, then forwarded to the AFIS software developer. This new software will undergo the normal OT&E process and will be completed in conjunction with the NASA NAVAID Engineers. Upon completion of the evaluation, NASA will be provided a copy of the completed OT&E. The FAA Flight Inspection Operations Division, AVN-200, and NASA will agree upon sites to be used for testing.

Figure 5

SOFTWARE CHANGE TASKING SHEET



From: Director of Operations										
To:										
Task No	**Title**									
Priority	**Aircraft Effectivity**									**Need By Date**
		CL604		**CL601**		**L60**		**BAe125**	**B300**	
Description:										

Requirement:

Director of Operations		**AVN-210**	**AVN-230**
Signature	Date	Initials	Initials

AVN-200 Software Change Worksheet 2 (12/03)

Figure 6

SOFTWARE CHANGE REQUEST SHEET

From: Director of Operations							
To:							
CC:							
SCR No	**Title**						
Priority	**Aircraft Effectivity**						**Need By Date**
	CL604		**CL601**		**L60**	**BAe125**	**B300**	
Description:							

Requirement:

Director of Operations		**AVN-210**	**AVN-230**
Signature	Date	Initials	Initials

AVN-200 Software Change Worksheet 1 (12/03)